

# Herd Immunity Thresholds for Selected Vaccine-Preventable Diseases

<http://www.bt.cdc.gov/agent/smallpox/training/overview/pdf/eradicationhistory.pdf>

Disease	$R_0$	Herd Immunity	Immunization Levels	
			1999 19-35 Months	1997-1998 Pre-School
Diphtheria	6-7	85%*	83%*	9%
Measles	12-18	83-94%	92%	96%
Mumps	4-7	75-86%	92%	97%
Pertussis	12-17	92-94%	83%*	97%
Polio	5-7	80-86%	90%	97%
Rubella	6-7	83-85%	92%	97%
Smallpox	5-7	80-85%	—	—

\*4 doses

† Modified from Epid Rev 1993;15: 265-302,  
Am J Prev Med 2001; 20 (4S): 88-153,  
MMWR 2000; 49 (SS-9); 27-38

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